TCT-405

Rotational Atherectomy Following by Second-generation Drug-eluting Stents Implantation Against Heavily Calcified Coronary Lesions

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Background: The rate of target lesion revascularization (TLR) against heavily calcified coronary lesions is still high and remaining unresolved problem even in drug-eluting stent (DES) era.The aim of this study was to evaluate the outcome of patients with these lesions undergoing rotational atherectomy (RA) followed by implantation of second-generation DES.
Methods: We performed coronary intervention using Zotarolimus or Everolimus eluting stent against consecutive de-novo 893 lesions/590 patients since May 2009 to October 2010. Angiographical follow-up (mean; 198±88.6 days, range; 164-346 days) was performed in 718 lesions/451 patients. We divided these lesions into 2 groups. One is heavily calcified coronary lesions required RA (HCCL), the other is not heavily calcified lesions without the need of RA (NHCCL). HCCL comprised of 135 lesions, 92 were treated with Zotarolimus-eluting stent (ZES) and 43 were with Everolimus-eluting stent (EES). NHCCL comprised of 583 lesions, 355 were with ZES and 228 were with EES. We compared clinical safety and efficacy between 2 groups.
Results: The total lesion length was longer in HCCL (21.6±19.0 vs. 17.4±6.3 mm, p<0.05), although reference diameter was larger in HCCL (3.06±0.46 vs. 2.78±0.48 mm, p<0.05). The maximum burr size of rotablator per lesion was 1.73±0.15 mm. The ratio of successful stent delivery was 100% in HCCL and 99.8% in NHCCL (p=0.63). Procedural success rate was equivalent in both groups (90.4% vs. 93.7%, p=0.20) and there was no in-hospital major advertise cardiac events (MACE) difference (0% vs. 0.4%, p=0.30). At 6 months, the rate of TLR was 3.7% in HCCL vs. 6.3% in NHCCL (p=0.46), and there were no differences in the ratio of MACE between 2 groups (3.7 % in HCCL vs. 6.7% in NHCCL, p=0.30).

Conclusion: Second-generation DES implantation using RA to facilitate dilatation against heavily calcified lesions appears to be feasible including high rate of procedural success rate and low-incidence of TLR as well as the results in non-heavily calcified lesions.

TCT-406

SYNTAX Score Does Not Add to Clinical Risk Score in a Typical PCI Population

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Background: The patterns of disease and clinical risk profile of patients being treated with percutaneous coronary intervention (PCI) is becoming increasingly complex. There is a strong move towards adopting risk stratification. Several clinical PCI risk scores exist, but generally include little data on the location, severity or complexity of lesions. Conversely, the SYNTAX score, designed to characterise the disease pattern in the SYNTAX study (patients with 3 vessel and left main disease) includes no clinical data. We aimed to investigate the value of combining SYNTAX with a clinical risk score to predict 30day and 1 year mortality after PCI
Methods: We reviewed the clinical and angiographic records of all patients who underwent PCI in 2006 at Sheffield, a regional public cardiothoracic centre (>50% patients having acute coronary syndromes). In prior work we had already constructed a clinical PCI risk score appropriate for our institution (Sheffield Risk Score, SRS), appropriately validated. This, and the SYNTAX score, was calculated for our cohort. Univariate analyses were carried out for each variable with 30 day and 1 year mortality. Logistic regression was used to create risk prediction models, which were assessed for their discrimination and calibration using ROC curves and the Hosmer-Lemeshow test
Results: 1670 PCIs were studied. All relevant clinical variables and the SYNTAX score were strongly associated with mortality at 30 days and 1 year (p<0.001). ROC curve analysis showed no improvement in c-statistics [measuring accuracy of prediction] for the combination of SYNTAX and SRS vs SRS alone for mortality at 30 days (c=0.93 vs 0.91) and 1 year (c=0.83 vs 0.83), despite patients in the highest SYNTAX tertile (score >15) having, as expected, lower survival at 30d (96 vs 99%) and 1y (94 vs 98%) than the lower two tertiles combined (p < 0.001).
Conclusion: The combination of SYNTAX score with a clinical PCI risk score does not result in any significant improvement in the accuracy of predicting survival at 30 days or 1 year in an all-comers population undergoing PCI.

Heart Disease in Women

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TCT-416

Female Patients with Acute Coronary Syndrome: Two Years Clinical Outcomes

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Background: The increasing use of coronary stenting has improved the outcome of PCI in several patient cohorts, including female patients. However, more information about the long term outcomes for women treated in the course of acute coronary syndrome (ACS) is needed. We investigated the late clinical outcomes in female patients as compared to males presenting with ACS and treated with a new generation drug eluting stent coated abluminally with Biolimus A9 and biodegradable polymer.
Methods: Among 3067 consecutive patients treated with Nobori DES and enrolled in NOBORI2 study, 372 female and 1268 male patients presented in the course of ACS. Primary endpoint of the study was target lesion failure (TLF), a composite of cardiac death, target vessel related MI and target lesion revascularization (TLR) at 1 year. Data are entered in an electronic database; adverse events are adjudicated by an independent clinical event committee and an independent corelab analyses all angiograms.
Results: Female patients were older, had significantly higher incidence of diabetes and hypertension and presented with more comorbidities compared to males. However, they had less previous revascularizations and history of smoking. Lesion complexity was similar, but more male patients had bifurcation lesions. Number of lesions treated and stents implanted was lower in female patients. Except higher RVD and diameter stenosis post-procedure in male vs female, the majority of QCA assessed parameters were not significantly different. At 2 year follow-up TLF was slightly higher in female patients (7.3% vs 5.7%; p=NS). In female group 12 patients died of a cardiac cause (3.2%), 13 (3.5%) had an MI and 17 (4.6%) a TLR. In male group, 25 patients (2.0%) died, 32 (2.5%) had an MI and 41 (3.2%) a TLR. Stent thrombosis was also slightly more frequently reported in female patients (1.0% male vs 1.9% female patients; p=NS).
Conclusion: Despite higher age, more frequent presence of risk factors and co-morbidities in female patients, clinical outcomes two years after treatment for ACS were comparably excellent in both genders.

TCT-417

Gender-specific outcomes after paclitaxel-eluting stent implantation in Japanese patients with coronary artery disease: a sub-analysis of Japan TAXUS Express2 post-marketing survey

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Background: Previous data from randomized trials and registries demonstrated that paclitaxel-eluting stent (PES) was as safe and effective in both men and women, except for a slightly higher revascularization rate in women among the highest risk population. We performed a sub-analysis of Japan TAXUS Express2 post-marketing survey registry to assess the influence of gender on clinical outcomes after implantation of PES in Japanese patients with coronary artery disease.
Methods: We analyzed 2132 PES-treated Japanese patients (women, n=551) from this real world registry. Study patients were stratified by gender to compare 1 year clinical outcome.
Results: PES-treated women were older (71.9±8.4 vs. 67.0±9.6, p<0.0001) and more likely to be insulin treated diabetes and hypertension. By contrast, PES-treated men were more likely to be smoker, had a previous history of myocardial infarction, and lower ejection fraction. Angiographically, women had significantly smaller reference vessel size (2.46±0.53 vs. 2.59±0.60 mm, p<0.0001). At 1 year follow-up, cardiac death, myocardial infarction and stent thrombosis (ARC definite or probable) were similar between men and women. Target lesion revascularization rate was significantly lower in women than in men (4.2 % vs. 6.5 %, p<0.05). Major adverse cardiac event showed a trend toward lower in women than in men (6.4% vs. 8.8 %, P=0.08).

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